



Reply to: 3420

Date: April 21, 1988

Subject: Ips Outbreak Potential in Winter Storm
Damaged Areas

To: Forest Supervisor, Tonto National Forest

On April 6 and 7, Dayle Bennett, Forest Pest Management Entomologist, accompanied Jim Mercer, Zone Silviculturist, and Cliff Dils, Zone Timber Staff, on an examination of winter storm damaged ponderosa pine over extensive areas on the Pleasant Valley and Payson Ranger Districts. The damage, caused by a severe winter storm in January 1988, consisted of widely scattered to concentrated areas of broken tops and fallen trees, generally less than ten inches in diameter. The purpose of this examination was to determine the potential risk of an Ips beetle buildup within this damaged material which could result in mortality of standing green trees.

Because the Ips beetle flight was just starting at the time of this examination, we can not accurately predict the intensity of attacks, population buildup and subsequent mortality in standing trees. However, based on the amount and size of downed material and the condition of the residual stands, we have grouped those areas visited into the following risk categories:

Low Risk - Areas in this category include Chamberlain Trail (FS Road 200), Colcord Road, FS Road 100, and Workman Creek (above and below the recreational areas) on the Pleasant Valley Ranger District; and Webber Creek (along FS Road 440) and areas adjacent to FS Road 64 on the Payson Ranger District.

In these areas the broken and blown down material was generally too widely scattered and/or too small in diameter (less than four inches) to result in a potentially damaging Ips beetle outbreak. Thus, no action is required to prevent or suppress Ips beetles.

Moderate Risk - Areas within this category include Naegelin Canyon (west of Clay Springs along FS Road 411) and Gentry Creek (near the junction of FS Road 202 and 100) on the Pleasant Valley Ranger District; and Broad Draw (along FS Road 65) and Tonto Village on the Payson Ranger District.

The down material within these areas was more abundant, more concentrated, and generally three to ten inches in diameter. Some of the material was currently being infested with Ips beetles. Galleries were being constructed and eggs deposited. No larvae were observed. The phloem of the smaller diameter (less than six inches) material was beginning to dry and may not be conducive to further attack or completed Ips development.

Caring for the Land and Sharing People

mailed on
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If downed material and standing broken stems greater than four inches in diameter are not treated, Ips populations in these areas could build to outbreak levels and cause some moderate amounts of mortality in standing green trees. However, significant losses are not likely. Scattered pockets of 6 to 15 faders may occur before the Ips population subsides. Therefore, priority for treatment within these areas may be based on whether or not losses are acceptable as related to timber, recreation, visual or other objectives, and/or accessibility, cost, and funding of treatment. We recommend treatment be considered in those areas where management objectives and economic trade-offs so dictate. For instance, Broad Draw and Tonto Village may have a higher treatment priority than other less accessible, less critical areas, and could be effectively and economically treated utilizing free-use fuelwood permits.

High Risk - These areas include Bottle Spring (section 5 along FS Road 102a) on the Pleasant Valley Ranger District; and along State Highway 87 between Pine and Strawberry, Thompson Draw Summer Home Area, Upper and Lower Tonto Creek Campgrounds, Bear Flat Loop Road, and Ponderosa Pine Campground on the Payson Ranger District.

In these areas, the downed material was abundant, concentrated, and generally large enough in diameter to result in an increase in Ips beetle population sufficiently high to cause a significant amount of mortality in surrounding green standing trees. If left untreated, several groups of standing green trees may be killed within these areas by summer's end. Therefore, we recommend treatment be considered in most of these areas. Based on recreational and visual objectives, we suggest highest priority for treatment be given to campgrounds, followed by summerhome areas, then throwdown camping areas. In areas where recreation and visual objectives may not be as important, such as the Bottle Spring Area, and in some difficult to access areas between Pine and Strawberry, a few scattered pockets of mortality may be acceptable and treatment not warranted.

Because of the short developmental cycle (approximately six weeks) and potentially explosive population increase in Ips, we strongly suggest you complete any proposed treatment operations by May 20. Treatment should include complete removal of all downed and standing broken stems larger than four inches in diameter. Smaller material should be loped and scattered. If removal is not possible, all material over four inches should either be destroyed (by burning, chipping, or burying) or bucked, stacked, and securely covered with plastic.

At the request of Jim Soeth, Pleasant Valley District Ranger, Jim Mercer and Dayle Bennett also examined an area of ponderosa pine mortality in the vicinity of Board Tree Saddle. While several such areas of current mortality are visible from the Young Highway, time constraints limited their examination to one easily accessible area. Within that area (approximately one acre in size) several ponderosa pine faders and snags of all size classes were observed. Many broken tops, standing broken stems, and large amounts of old, dead material scattered across the ground indicated that damage has been occurring in the area for several years. The site was very rocky and at the lower elevational range of ponderosa pine. Tree growth and regeneration appeared marginal for timber production. No evidence of insect-caused damage and no specific evidence of root disease was found. However, we suspect root rot pathogens may be adding to this mortality since much of the damage is symptomatic of a root disease





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center. In addition, moderate to heavy dwarf mistletoe infections, found throughout the ponderosa pine, may be contributing to much of the mortality in this area. We anticipate mortality will continue in these areas at about the same rate, but because of the poor quality of the site, the low probability of successfully regenerating these areas, and the severity of dwarf mistletoe infections and perhaps root disease, we recommend no action be taken.

If you have any questions, please contact us.

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Dr.

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cc:
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